

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NORTH DAKOTA

Energy Heating, LLC, an Idaho limited liability company; Rocky Mountain Oilfield Services, LLC, an Idaho limited liability company,

Plaintiff/Counterclaim Defendants,

vs.

Heat On-The-Fly, LLC, a Louisiana limited liability company, and Super Heaters North Dakota, a North Dakota limited liability company,

Defendants,

and

Heat On-The-Fly, LLC, a Louisiana limited liability company,

Counterclaimant.

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Heat On-The-Fly, LLC, a Louisiana limited liability company,

Third-Party Plaintiff/Counterclaim Defendant,

vs.

Marathon Oil Corporation,

Third-Party Defendant/  
Counterclaimant.

Civil Case No. 4:13-cv-10

**FINDINGS OF FACT,  
CONCLUSIONS OF LAW, AND  
ORDER FOR JUDGMENT ON  
ISSUE OF INEQUITABLE  
CONDUCT**

**INTRODUCTION AND SUMMARY OF DECISION**

Defendant/Counterclaimant, Heat-On-The-Fly, LLC, (“HOTF”) is the owner of Patent No. 8,171,993 (“the ‘993 Patent”) which is at the heart of the disputes in the above-

entitled action. Plaintiffs/Counterclaim Defendants, Energy Heating, LLC, and Rocky Mountain Oilfield Services, LLC, (collectively “Energy Heating”) and Third-Party Defendants/Counterclaimants, Marathon Oil Corporation and Marathon Oil Company (collectively “Marathon”) asked the court for declaratory judgments that the ‘993 Patent is unenforceable due to inequitable conduct.<sup>1</sup> A Bench Trial was held on the matter concurrent with the jury trial held August 18 through September 4, 2015. Further hearing was held January 7, 2016.

Because inventor Mark Hefley and his company, HOTF, withheld material information of prior sales from the United States Patent and Trademark Office (“PTO”) with an intent to deceive the PTO into granting the patent, the court holds that the ‘993 Patent is unenforceable due to inequitable conduct. Energy Heating and Marathon’s requests for declaratory judgment **on the issue of inequitable conduct are GRANTED.**

### **FINDINGS OF FACT**

1. Defendant/Counterclaimant /Third-Party Plaintiff, Heat-On-The-Fly, LLC, (“HOTF”), is the owner and licensor of United States Patent No. 8,171,993 entitled “Water Heating Apparatus for Continuous Heated Water Flow and Method for Use in Hydraulic Fracturing” (“the ‘993 Patent”).<sup>2</sup> During the pendency of this litigation, HOTF was sold to Phoenix Oilfield Services, LLC (“Phoenix”).
2. Plaintiffs/Counterclaim Defendants, Energy Heating, LLC, and Rocky

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<sup>1</sup> Doc. #283, Count 7, ¶¶ 47-64. Doc. #297, Count III, ¶¶ 15-29.

<sup>2</sup> Trial Exhibit P-1.

Mountain Oilfield Services, LLC, (collectively “Energy Heating”) are water heating companies who provide water heating services for water used during the hydraulic fracturing process.

3. Third-Party Defendants/Counterclaimants, Marathon Oil Corporation and Marathon Oil Company (collectively “Marathon”), are in the business of oil exploration and production. They neither heat water nor engage in the business of hydraulic fracturing, relying on independent contractors to perform those operations.
4. Ransom Mark Hefley (“Hefley”) is the sole inventor named in the ‘993 Patent. Prior to HOTF’s sale to Phoenix, Hefley was a founder and a part owner of HOTF.
5. Hefley filed the earliest provisional application, No. 61/276,950, on September 18, 2009.<sup>3</sup>
6. The ‘993 Patent lists Ransom Mark Hefley as the Inventor and Heat On-The-Fly, LLC, as Assignee.<sup>4</sup>
7. The ‘993 Patent issued May 8, 2012.<sup>5</sup>
8. The “Critical Date” for analyzing the on-sale and public-use bars of 35 U.S.C. § 102(b) is September 18, 2008, one year prior to the earliest application.
9. The “ABSTRACT” contained in the patent describes the invention as follows:  
A method of hydraulic fracturing of an oil producing formation

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<sup>3</sup> Trial Exhibit P-1.

<sup>4</sup> Trial Exhibit P-1.

<sup>5</sup> Trial Exhibit P-1.

includes the provision of a heating apparatus which is transportable and that has a vessel for containing water. A water stream of cool or cold water is transmitted from a source to a mixer, the cool or cold water stream being at ambient temperature. The mixer has an inlet that receives cool or cold water from the source and an outlet that enables a discharge of a mix of cool or cold water and the hot water. After mixing in the mixer, the water assumes a temperature that is suitable for mixing with chemicals that are used in the fracturing process, such as a temperature of about 40° -120°F.+(4.4 - 48.9° C.+). An outlet discharges a mix of the cool and hot water to surge tanks or to mixing tanks. In the mixing tanks, a proppant and an optional selected chemical or chemicals are added to the water which has been warmed. From the mixing tanks, the water with proppant and optional chemicals is injected into the well for part of the hydraulic fracturing operation.

10. There is clear and convincing evidence of substantial on-sale and public uses of the invention described in the patent dating as early as October 2006.
11. Hefley admitted at trial that prior to the critical date he and his companies used water heating systems containing all of the elements of Claim 1 of the patent.
12. Invoices produced at trial, Hefley's testimony, and the testimony of other witnesses establishes that Hefley and his companies performed on-the-fly heating of water on at least 61 frac jobs prior to September 18, 2008.<sup>6</sup>
13. The on-the-fly heating on these 61 frac jobs was accomplished utilizing the system described in the '993 Patent application.
14. The invoices prove by clear and convincing evidence that Hefley's companies collected more than 1.8 million dollars (\$1,800,000.00) for the heat-on-the-fly services provided prior to the critical date.
15. Hefley and/or HOTF knew of the significance of the "critical date" and the one-year grace period for filing a patent application. Hefley testified at trial

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<sup>6</sup> Trial Exhibits M-429-m-521.

that his business partner, Jim Cole, had discussed with him the requirement that the patent process required filing the application within one year after the invention was first offered for sale or used publicly.

16. Patent '993 was granted pursuant to Application Number 12/842,738 filed July 23, 2010.<sup>7</sup>
17. On July 29, 2010, Hefley declared to the Patent Office, under penalty of perjury, that he understood the contents of the application and acknowledged his duty to disclose material information.<sup>8</sup>
18. Prior sales and uses were not reported to the United States Patent Office.
19. The prior on-sale uses of the invention were not done in secret. Hefley made no attempt to enter into confidentiality agreements with others involved in the jobs in which he used his system for heating water on the fly; nor did he make any attempt to hide the system he was using to heat water.
20. The primary reason for the 61 prior uses of the heat-on-the-fly process was to provide income to Hefley and his companies.
21. Hefley's claim that the prior uses were experimental is belied by his conduct in conducting the heating. Hefley kept no notebooks, drawings, plans or explanations of the outcomes. He expressed no preliminary hypotheses prior to the heating and recorded no conclusions confirming or rejecting the hypotheses. The absence of contemporaneous records, explanations, or confirmation by uninterested parties demonstrates that the prior uses are not

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<sup>7</sup> Trial Exhibit P-1, page 1.

<sup>8</sup> Trial Exhibit M-303.

experimentation. Hefley presented no evidence to satisfactorily explain or justify his knowing failure to disclose the prior uses to the United States Patent Office

22. Even if the court found the prior uses to be experimental in nature, the experimentation was unrelated to any claim expressed in the '993 Patent. The purported experimentation was designed to improve economic viability as opposed to meeting the claims expressed in the '993 Patent.

### **APPLICABLE LAW**

“As an equitable doctrine, inequitable conduct hinges on basic fairness.”<sup>9</sup> To prevail on a claim of inequitable conduct, a party must prove that the patentee “acted with specific intent to deceive the PTO.”<sup>10</sup> In a case such as this, which involves nondisclosure of information to the Patent Examiner, “clear and convincing evidence must show that the applicant *made a deliberate decision* to withhold a *known* material reference.”<sup>11</sup> The court must find by clear and convincing evidence that the withheld reference was material, that the applicant knew of the reference, and that the applicant “made a deliberate decision to withhold it.”<sup>12</sup>

Intent and materiality are separate requirements for a finding of inequitable conduct.<sup>13</sup> The court “must weigh the evidence of intent to deceive independent of its

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<sup>9</sup> Theresense, Inc., v. Becton, Dickinson, and Co., 649 F.3d 1276, 1292 (Fed. Cir. 2011).

<sup>10</sup> Id. at 1290.

<sup>11</sup> Id.

<sup>12</sup> Id.

<sup>13</sup> Id.

analysis of materiality.”<sup>14</sup> “Because direct evidence of deceptive intent is rare, a district court may infer intent from indirect and circumstantial evidence.”<sup>15</sup> That said, there is no clear and convincing evidence of an intent to deceive unless such an intent is “the single most reasonable inference able to be drawn from the evidence.”<sup>16</sup> The evidence must be sufficient “to *require* a finding of deceitful intent in light of all the circumstances.”<sup>17</sup> If there are “multiple reasonable inferences that may be drawn, intent to deceive cannot be found.”<sup>18</sup>

In order for the court to find that information withheld from the Patent Examiner was material, the court must use a “but-for” analysis.<sup>19</sup> “Hence, in assessing the materiality of the withheld reference, the court must determine whether the PTO would have allowed the claim if it had been aware of the undisclosed reference.”<sup>20</sup> “In making this patentability determination, the court” applies “the preponderance of the evidence standard” and gives “claims their broadest reasonable construction.”<sup>21</sup>

Congress has provided that a “person shall be entitled to a patent unless – . . . the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective date of the claimed invention

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<sup>14</sup> Id.

<sup>15</sup> Id.

<sup>16</sup> Id.

<sup>17</sup> Id.

<sup>18</sup> Id. at 1290-1291.

<sup>19</sup> Id. at 1291.

<sup>20</sup> Id.

<sup>21</sup> Id.

...<sup>22</sup> However, under certain circumstances, disclosures “made 1 year or less before the effective filing date of a claimed invention shall not be prior art to the claimed invention .

...<sup>23</sup> Further, a patent “may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.”<sup>24</sup>

In applying the statutory on-sale bar, the court “must follow the test set forth in Pfaff v. Wells Elecs., Inc., 525 U.S. 55, 66-67 (1998).”<sup>25</sup> A single sale is sufficient to bar patentability.<sup>26</sup> In order for the on-sale bar to work to invalidate a patent, clear and convincing evidence must establish that “(1) the invention be the subject of a commercial sale or offer for sale and (2) the invention be ‘ready for patenting’ at the time of the offer or sale.”<sup>27</sup> An invention is ready for patenting “when the evidence shows that the invention was reduced to practice or described in a written description sufficient to permit one of ordinary skill in the art to practice the invention without undue experimentation.”<sup>28</sup> “An invention is reduced to practice when the patentee has an embodiment that meets every

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<sup>22</sup> 35 U.S.C. § 102(a)(1).

<sup>23</sup> 35 U.S.C. § 102(b)(1).

<sup>24</sup> 35 U.S.C. § 103.

<sup>25</sup> Honeywell Internat’l, Inc. v. Universal Avionics Systems Corp., 488 F.3d 982, 996 (Fed. Cir. 2007).

<sup>26</sup> Electromotive Division of General Motors Corp. v. Transportation Systems Division of General Electric Co., 417 F.3d 1203, 1209 (Fed. Cir. 2005).

<sup>27</sup> Honeywell Internat’l, Inc., 488 F.3d at 996 (citing Pfaff v. Wells Elec., Inc., 525 U.S. 55).

<sup>28</sup> Id. at 997.



limitation and operates for its intended purpose.”<sup>29</sup> “Reduction to practice requires proof that the invention worked for its intended purpose.”<sup>30</sup>

If a prior use was a bona fide experiment to perfect an invention or a test to determine whether the invention will work for its intended purpose, the use will not serve as a bar under § 102.<sup>31</sup> However, attempts to use the invention for profit, and not for experiment will deprive the inventor of the right to the patent.<sup>32</sup>

“A use may be experimental only if it is designed to (1) test claimed features of the invention or (2) to determine whether an invention will work for its intended purpose – itself a requirement of patentability.”<sup>33</sup> “In other words, an invention may not be ready for patenting if claimed features or overall workability are being tested. But, there is no experimental use unless claimed features or overall workability are being tested for purposes of the filing of a patent application.”<sup>34</sup> The experimental use negation of the § 102 bar is of no avail to a patentee who asserts that the prior use was meant to test the invention for its suitability for its intended purpose unless the experiments were designed to refine the claim limitations in the patent application.<sup>35</sup>

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<sup>29</sup> Id.

<sup>30</sup> Honeywell Internat’l Inc., 488 F.3d at 997 (citing EZ Dock v. Shafer Sys., Inc., 276 F.3d 1347, 1351 (Fed. Cir. 2002)).

<sup>31</sup> Honeywell Internat’l Inc., 488 F.3d at 998 (citing City of Elizabeth v. Am. Nicholson Pavement Co., 97 U.S. 126, 137 (1877)).

<sup>32</sup> Honeywell Internat’l Inc., 488 F.3d at 998.

<sup>33</sup> Clock Spring, L.P. v. Wrapmaster, Inc., 560 F.3d 1317, 1327 (Fed. Cir. 2009).

<sup>34</sup> Id.

<sup>35</sup> Id. at 1327-1328.

**CONCLUSIONS OF LAW**

1. To clear and convincing evidence Hefley and/or HOTF deliberately withheld information regarding prior sales from the PTO.
2. The patent would not have issued if the Examiner had been provided with the information regarding the prior sales.
3. To clear and convincing evidence the withheld information was material to the issuance of the patent.
4. The single most reasonable inference to be drawn from the evidence requires a finding of deceitful intent in light of all of the circumstances. Intent to deceive was proven by clear and convincing evidence.
5. Hefley and HOTF engaged in inequitable conduct in order to obtain the '993 Patent.
6. The inequitable conduct renders the patent unenforceable.

**ORDER FOR JUDGMENT**

HOTF's inequitable conduct renders the '993 Patent unenforceable. Energy Heating and Marathon's claims for Declaratory Judgment on the issue of **Inequitable Conduct** are **GRANTED**.

**IT IS SO ORDERED.**

**LET JUDGMENT BE ENTERED ACCORDINGLY**

Dated this 14th day of January, 2016.

/s/ Ralph R. Erickson  
Ralph R. Erickson, Chief Judge  
United States District Court